

WHAT IS CLAIMED IS:

- 5            1.     A power distribution unit useful in a truck tractor to apply electrical power to a selected one or more of a plurality of signal terminals of a tractor-mounted connector in a tractor-to-trailer electrical connection, the power distribution unit comprising a power bus adapted for connection to a power source, an output terminal corresponding to each signal terminal of the connector, a switch
- 10           2.     A power distribution unit according to claim 1 in which each switch and associated actuator comprise a relay operable by a respective control signal.
- 15           3.     A power distribution unit according to claim 1 wherein at least one control signal can be generated at a location remote from the unit.
- 20           4.     A power distribution unit according to claim 1 including in the unit a multiplicity decoder operable to generate at least two of the control signals.
- 25           5.     A power distribution unit according to claim 1 including a common terminal connectible to the power source and connected in the unit to a common output terminal associated with the switched output terminals.
6.     A power distribution unit according to claim 5 in which the power source is a battery.
7.     A power distribution unit according to claim 1 in which the connector is a socket conforming to SAE J560.
- 30           8.     A power distribution unit according to claim 7 in which the signal terminals are components of the socket and have ends accessible inside the tractor, and the power distribution unit includes a second connector matable with the signal terminal ends, whereby each signal terminal can be energized by closure of the corresponding switch in the unit.
- 35           9.     In a heavy duty truck tractor having a first multi-terminal electrical connector mounted in a rear wall of the tractor and cooperable with a second mating

connector at an end of a multi-wire cable extendible to a trailer coupled to the tractor, the improvement comprising a power distribution unit in the tractor in association with the first connector and operable for supplying tractor battery power essentially directly to selected ones of the first connector terminals when desired, the power distribution unit comprising a power bus connected directly to the battery, a respective switch connected between the power bus and each one of the selected first connector terminals, each switch having an actuator, each actuator being a component of a respective control circuit powered by the battery and operable to generate an actuator command signal when it is desired to supply battery power to the respective selected one of the first connector terminals, and a common connection from the battery to a further terminal of the first connector.

10. The combination of claim 9 in which the first connector is a socket.
11. The combination of claim 10 in which the socket conforms to SAE J560 and has six signal terminals defining the selected first connector terminals and a common terminal defining the further terminal of the first connector.
12. The combination of claim 11 in which each switch actuator is a component of the respective control circuit.
13. The combination of claim 9 in which each switch is a component of a relay.
14. The combination of claim 9 in which the connection of the switches and the common connection to the terminals of the first connector comprises a third connector matable with the first connector inside the tractor.